N° 12,065 A.D. 1898

Date of Application, 27th May, 1898—Accepted, 24th Sept., 1898

COMPLETE SPECIFICATION.

Improvements in Artificial Teeth.

I, Friedrich Ernst, Dentist, resident at Hamburg, 21, Spaldingstrasse, Empire of Germany, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The present invention relates to a new construction and arrangement of artificial teeth for the purpose of enabling a quick and easy exchange of the teeth made of minerals, or cast of suitable metal, in the plate which holds them, the teeth permitting of being fixed singly, or as a number of teeth connected in one piece, in fact in any form, as cutters, corner-, or cheek-teeth to caoutchouc plates, or to the so-called bridge-work metal plates. For this purpose the tooth is so formed at the back and beneath its crown, that a bridge or wedge-shaped piece is obtained which may be divided into two cheeks connected with each other and provided with a groove, in order to be pushed, in longitudinal direction, into a corresponding guide-groove of a metal casing containing a spring of suitable metal, which springs into the said groove when the tooth has reached its proper position. The metal casing is provided either with a metal tongue, as known, or, in the case of several teeth connected firmly with each other, also in the of block-teeth, with a metal plate which can be vulcanized to the caoutchouc, or soldered to the metal plate, or, in the latter case leaving out the tongue, the metal casing can be soldered immediately to the tooth plate. Through this peculiar formation of the sliding-teeth which are firmly secured in the metal casing, from which they can only be removed by force, the great industrial advantage is obtained over the known pinned teeth and other artificial teeth firmly connected with the plate, that, when one or several teeth should break, the same can immediately and easily be replaced without the wearer having, for any length of time, to dispense with all the teeth, or with the lower or upper plate; besides the work of replacing is much easier than formerly, as it can be carried out without the aid of special tools, very quickly, and requires no skill. By the accompanying drawing a few forms of execution are given as example.

Figs. 1 and 2 are side- and back-views respectively of a single front tooth.

Fig. 3 is a section from x to x of the same tooth.

Figs. 4, 5 and 6 are a central section, a top- and front-view respectively of the metal casing.

Figs. 7 and 8 are side- and back-views of a low cheek-tooth which does not give much room for fastening.

Fig. 9 is a section from y to y in Figs. 7 and 8.

Figs. 10 and 11 are a central section and a top-view of the metal casing.

Figs. 12 and 13 are a somewhat altered form of a cheek-tooth in side- and back-view.

Fig. 14 is a section from z to z in Figs. 12 and 13.

Figs. 15 and 16 are a central section and top-view of the metal casing.

Fig. 17 is the top-view of an upper-teeth caoutchouc plate with single and block-teeth, according to the present invention.

[*Price* 8*d.*]

Fig. 18 is the top-view of a lower-teeth metal plate with tooth-casings soldered on.

In Figs. 1 to 6 *a* is the mineral tooth of which the back is formed as a bridge of suitable section with two cheeks, or as a sliding wedge *b* to be pushed into the opening *c* of the metal casing *d* slit in the front, as shown by Fig. 6, the metal casing receiving the metal tongue *f* provided with holes *e*, and lateral grooves *g* (Figs. 4 and 6), the latter and the holes *e* serving to hold the metal casing firmer in the caoutchouc.

At the bottom of opening *c*, a metal spring, in shape of an elastic hook, is rivetted, soldered, or the like, which, when the tooth is pushed quite in, springs into the groove *i* which is made in the upper corner between the sliding-cheeks *b* of the tooth *a*. The tooth *a* is pushed from above into the metal casing *d* in the direction indicated by the arrow *w* in Fig. 1.

In Figs. 7 to 11 *k* is the cheek-tooth which is manufactured with a bridge *l* which receives the longitudinal cut shown by Fig. 9 and the groove *m* beneath the crown of the tooth. Into this groove the ends of a metal plate-spring *n* (Fig. 10) are bent upwardly and inwardly from both sides, and fixed in suitable manner to the bottom *o* of the metal casing *p* which, in this case, is laterally quite closed, and which, can be vulcanized, in the known manner, by means of a suitably perforated plate *q*, into the caoutchuc plate. The form of execution illustrated by Figs. 12 to 16, differs from that of Figs. 7 to 11 only in as far as the plate-spring *r* (Figs. 15 and 16) is not fixed in the centre of the casing-opening *o*, but to its back, and the bridge *s* of the tooth *k* receives the double wedge-shaped section seen by Fig. 13, and at the front lower edge a nose *t* which, when the tooth is in its place, fits into the space before the spring *r* (Fig. 15). The spring snaps laterally into the narrow part of the tooth-bridge *s* and thus holds the tooth-bridge fast. In Fig. 17 the casings for the cutters 6 are connected with the rubber plate A by tongues F^1, those of the block-teeth D and of the single cheek-tooth E by a metal plate F by means of vulcanizing, while in Fig. 18 the metal casings for the teeth G are soldered immediately to the tooth-plate B without the tongues or plate.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1) Exchangeable teeth made of suitable material with grooves at the back and provided with a wedge-shaped bridge in combination with a metal casing to take up the said bridge and provided with a spring which springs into a groove at the wedge-shaped bridge of the tooth, whereby the tooth is held fast in the metal casing, substantially as and for the purpose set forth.

2) In exchangeable teeth in combination with a groove at the back of the tooth, and provided with a wedge-shaped bridge divided into two cheeks, a metal casing provided with a hook-spring and a perforated plate for fastening the casing to the tooth-plate, the casing being slit in the front and provided with grooves at the side, substantially as and for the purpose set forth.

3) In exchangeable teeth the combination of a tooth, at its lower side provided with a bridge fitting into the opening of a metal casing closed at the sides and provided with a fastening plate, containing a plate-spring bent upwards at the sides substantially as and for the purpose set forth.

Dated this 24th day of May 1898.

ERNST HERSE,
Agent for Applicant.

Redhill: Printed for Her Majesty's Stationery Office, by Malcomson & Co., Ltd.—1898

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[This Drawing is a reproduction of the Original on a reduced scale.]

(2 SHEETS)
SHEET 2.

Malby&Sons, Photo-Litho

Fig. 12.

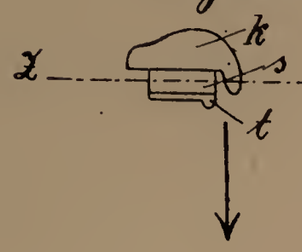


Fig. 13.

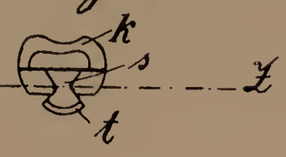


Fig. 15.

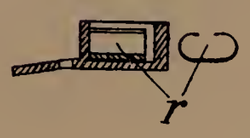


Fig. 14.

Fig. 16.

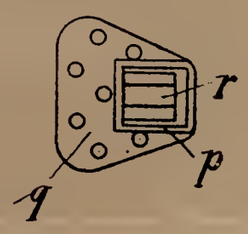


Fig. 17.

Fig. 18.

SHEET 1.

Fig. 1.

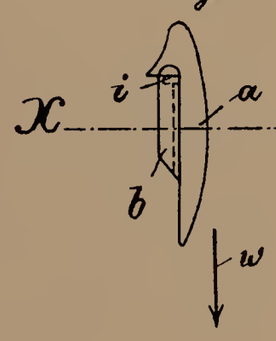


Fig. 2.

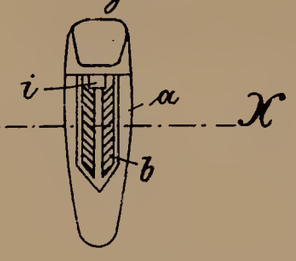


Fig. 7.

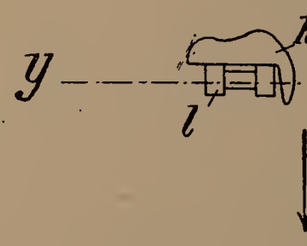


Fig. 8.

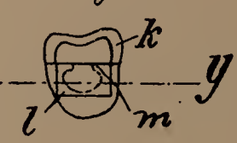


Fig. 6.

Fig. 4.

Fig. 3.

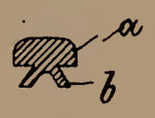


Fig. 10.

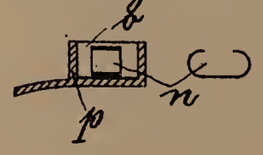


Fig. 9.

Fig. 5.

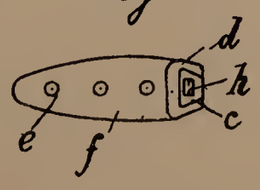
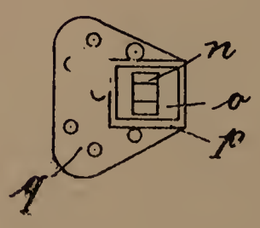


Fig. 11.



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ERNST'S Complete Specification.